

IN THE CLAIMS:

Prior to examination of the application, please cancel claim 1.

Please add the following claims:

36. An intravascular stent delivery assembly, comprising:

a. a catheter having:

i. a proximal end and a distal end;

ii. a distal port at the distal end;

5 iii. a proximal port spaced a relatively short distance from the
distal end and a relatively long distance from the proximal end;

 iv. a passageway for a guide wire extending between the distal
port and the proximal port; and

v. an expandable member for expanding a stent; and

10 b. a stent disposed about the expandable member.

37. The assembly of claim 36, wherein the stent is mounted on the expandable
member.

38. The assembly of claim 36, wherein the stent is longitudinally flexible and
expandable and comprises a plurality of cylindrical elements which are independently

expandable in the radial direction and which are interconnected so as to be generally aligned on a common longitudinal axis.

39. The assembly of claim 36, wherein the expandable member comprises a balloon.

40. The assembly of claim 36, wherein the catheter has an inflation passageway.

41. The assembly of claim 40, wherein the inflation passageway is in fluid communication with the balloon.

42. The assembly of claim 36, further comprising a sheath having a passageway for receiving the catheter.

43. The assembly of claim 42, wherein the sheath has a first port at a distal end of the sheath and a second port spaced distally of the proximal end of the sheath.

44. The assembly of claim 43, wherein a slit in the sheath extends distally from the second port so that the guide wire can be pulled through the slit during catheter exchanges.

45. The assembly of claim 36, wherein a slit in the catheter extends distally from the proximal port so that the guide wire can be pulled through the slit during catheter exchanges.

46. The assembly of claim 38, wherein the cylindrical elements of the stent are out of phase.

47. An intravascular stent delivery assembly, comprising:

a. a catheter having

i. a proximal end and a distal end;

ii. a distal guide wire port at the distal end;

5 iii. a proximal guide wire port spaced a relatively short distance from the distal end and a relatively long distance from the proximal end;

iv. a passageway for a guide wire extending between the distal guide wire port and the proximal guide wire port; and

v. an expandable member for expanding a stent; and

10 b. a longitudinally flexible and expandable stent disposed about the expandable member of the catheter, the stent comprising a plurality of cylindrical elements which are independently expandable in the radial direction and which are interconnected so as to be generally aligned on a common longitudinal axis.

48. The assembly of claim 47, wherein the stent is mounted on the expandable member.

49. The assembly of claim 47, wherein the expandable member comprises a balloon.

50. The assembly of claim 49, wherein the catheter has an inflation passageway.

51. The assembly of claim 50, wherein the inflation passageway is in fluid communication with the balloon.

52. The assembly of claim 47, further comprising a sheath having a passageway for receiving the catheter.

53. The assembly of claim 52, wherein the sheath has a first port at a distal end of the sheath and a second port spaced distally of the proximal end of the sheath.

54. The assembly of claim 53, wherein a slit in the sheath extends distally from the second port so that the guide wire can be pulled through the slit during catheter exchanges.

55. The assembly of claim 47, wherein a slit in the catheter extends distally from the proximal port so that the guide wire can be pulled through the slit during catheter exchanges.

56. The assembly of claim 47, wherein the cylindrical elements of the stent are out of phase.

57. An intravascular stent delivery assembly comprising:

a. a catheter having

i. a proximal end and a distal end;

ii. a distal port at the distal end;

5 iii. a proximal port spaced a relatively short distance from the distal end and a relatively long distance from the proximal end;

iv. a passageway for a guide wire extending between the distal port and the proximal port;

v. a long relatively stiff proximal section;

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vi. a short relatively flexible distal section; and

vii. an expandable member for expanding a stent; and

b. a stent disposed about the expandable member.

58. The assembly of claim 57, wherein the stent is mounted on the expandable member.

59. The assembly of claim 57, wherein the stent is longitudinally flexible and expandable and comprises a plurality of cylindrical elements which are independently expandable in the radial direction and which are interconnected so as to be generally aligned on a common longitudinal axis.

60. The assembly of claim 57, wherein the expandable member comprises a balloon.

61. The assembly of claim 60, wherein the catheter has an inflation passageway.

62. The assembly of claim 61, wherein the inflation passageway is in fluid communication with the balloon.

63. The assembly of claim 57, further comprising a sheath having a passageway for receiving the catheter.

64. The assembly of claim 63, wherein the sheath has a first port at a distal end of the sheath and a second port spaced distally of the proximal end of the sheath.

65. The assembly of claim 64, wherein a slit in the sheath extends distally from the second port so that the guide wire can be pulled through the slit during catheter exchanges.

66. The assembly of claim 57, wherein a slit in the catheter extends distally from the proximal port so that the guide wire can be pulled through the slit during catheter exchanges.

67. The assembly of claim 59, wherein the cylindrical elements of the stent are out of phase.

68. The assembly of claim 57, wherein a stiffening mandrel is disposed within at least the proximal section of the catheter.

69. An intravascular stent delivery assembly, comprising:

a. a catheter having

i. a proximal end and a distal end;

ii. a distal guide wire port at the distal end;

5 iii. a proximal guide wire port spaced a relatively short distance from the distal end and a relatively long distance from the proximal end;

iv. a passageway for a guide wire extending between the distal guide wire port and the proximal guide wire port;

v. a long relatively stiff proximal section;

10 vi. a short relatively flexible distal section; and

vii. an expandable member for expanding a sent; and

b. a longitudinally flexible and expandable stent disposed about the expandable member of the catheter, the stent comprising a plurality of cylindrical elements which are independently expandable in the radial direction and which are
15 interconnected so as to be generally aligned on a common longitudinal axis.

70. The assembly of claim 69, wherein the stent is mounted on the expandable member.

71. The assembly of claim 69, wherein the expandable member comprises a balloon.

72. The assembly of claim 71, wherein the catheter has an inflation passageway.

73. The assembly of claim 72, wherein the inflation passageway is in fluid communication with the balloon.

74. The assembly of claim 69, further comprising a sheath having a passageway for receiving the catheter.

75. The assembly of claim 74, wherein the sheath has a first port at a distal end of the sheath and a second port spaced distally of the proximal end of the sheath.

76. The assembly of claim 75, wherein a slit in the sheath extends distally from the second port so that the guide wire can be pulled through the slit during catheter exchanges.

77. The assembly of claim 69, wherein a slit in the catheter extends distally from the proximal port so that the guide wire can be pulled through the slit during catheter exchanges.

78. The assembly of claim 69, wherein the cylindrical elements of the stent are out of phase.

79. The assembly of claim 69, wherein a stiffening mandrel is disposed within at least the proximal section of the catheter.

REMARKS

This application is a divisional of U.S. Serial 09/136,982 filed August 20, 1998, which is a divisional application of U.S. Serial No. 09/119,344 filed July 20, 1998, which is a divisional application of U.S. Serial No. 08/630,528, which issued at U.S. Patent No. 5,782,855 on July 21, 1998, which was a divisional application of U.S. Serial No. 08/085,959, which issued as U.S. Patent No. 5,507,768 on April 16, 1996, which was a continuation-in-part application of U.S. Serial No. 07/647,464 filed January 28, 1991, now abandoned.